ABSTRACT

An apparatus for promoting radial and axial expansion of soft tissue, the apparatus comprising: (1) a chamber having a wall defining an interior thereof and supporting an ambient pressure therein; (2) a vacuum source connected to the chamber to reduce the ambient pressure therein; and (3) a membrane sealingly connected to the chamber and characterized by a constant of elasticity selected to provide a bias resisting the reduction of ambient pressure against a soft tissue member in the membrane in order to reduce localized trauma to the soft tissue due to the reduction of ambient pressure. A method for exercising a member formed of soft tissue, the method comprising: (1) providing a chamber having a wall of fixed dimension; (2) providing an evacuation device to reduce ambient pressure in the chamber; (3) providing a membrane, substantially tubular in shape, substantially elastic, having an interior passage, having a first end sealing securable to the wall of the chamber, and having a second end extendable into the chamber a length greater than the length of a member comprising soft tissue; (4) occluding the interior passage of the membrane by the member, in a flaccid state; (5) operating the evacuation device to reducing the ambient pressure in the chamber; (6) drawing the member into the interior passage by virtue of a pressure differential between bodily vascular pressure and the ambient pressure; and (7) expanding the member axially and radially due to the pressure differential.